DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 82.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017606
Date Inspected: 18-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Westmont Industries

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Santa Fe Springs, CA.

CWI Name:	R. Rodriguez, R. Dominguez	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☐ Yes ☐ No ☑ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: Travelers

Summary of Items Observed:

The Quality Assurance Inspector Sean Vance arrived on site at Westmont Industries (WMI) in Santa Fe Springs, CA, to randomly observe the in process welding of the Travelers. The QA Inspector arrived on site to randomly observe the WMI Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

Trolley Test Stand

On this date, the QA Inspector observed WMI Production personnel, Mr. Larry Swanson (WID # 3031) and Mr. Juan Jimenez (WID # 3059), continuing to perform fitting and Gas Metal Arc Welding (GMAW) activities for the assembly identified as Rail Y Assembly 2-A4, web to flange. The QA Inspector observed Mr. Jimenez performing the GMAW in the Horizontal (2F) position on the previously fit Web to Flange plate material and the fit up T-joint appeared to be designated as an 8 mm fillet weld. The QA Inspector randomly observed that the GMAW passes were being deposited in approximate lengths of 300 mm on either side of the weld joint, for the entire length of the weld.

The QA Inspector observed that Shop Supervisor Juan Mora was nearby and Mr. Mora explained that the weld was being deposited in this manner, to possibly minimize distortion or warping of the web and flanges, during the GMAW activities.

See attached picture below.

SAS-EB Traveler
Fixed Stairs Section

On this date, the QA Inspector observed Smith Emery QC Inspector Ruben Dominguez performing Ultrasonic Testing (UT), on the previously completed Complete Joint Penetration (CJP) splices for the Frame Assemblies identified as A237 and B237. The QA Inspector observed that the weld joints numbers are designated as S1, S2, S3, S4, S5, S6, S7, S8 and S9 and observed that the material appeared to be 5mm thick Tube Steel (TS). The QA Inspector observed QC Inspector Dominguez initially perform a lamination scan, utilizing a 0 degree transducer (straight beam) on these completed weld joints, to verify that laminar reflectors were not present in the weld joint testing area. The QA Inspector observed that Mr. Dominguez was utilizing a 12 mm diameter, 2.25 MHz frequency transducer, to perform the lamination scan. After observing QC Inspector Dominguez performing the lamination scan, the QA Inspector then observed Mr. Dominguez utilizing a 70 degree Lucite wedge, attached to a 12 mm, 2.25 MHz transducer, to perform Shear Wave testing, on the above mentioned weld joints. The QA Inspector observed that Mr. Dominguez was utilizing a Krautkramer USN 52L testing instrument and during the testing, the scanning pattern appeared to be in compliance with AWS Fig. 6.24. After testing was complete, Mr. Dominguez explained that no rejectable indications were found and the inspection had been performed in accordance to AWS D1.1 2002, Annex K, testing criteria. Mr. Dominguez then explained that an applicable testing report will be completed, per the contract requirements.

See Summary of Conversations Comment below.

On this date, the QA Inspector observed Westmont Industries (WMI), production personnel Mr. Raymundo Anaya (WID # 3196), Mr. Cesar Canales and Mr. Jose Rodriguez (WID # 3031), continuing to perform fitting and Flux Core Arc Welding (FCAW) activities for the fabrication of the Fixed Stairs Section Assembly. The QA Inspector observed that the activities were being performed on the previously placed and fit Frame Assemblies, identified as A237, B237, A218, A219 and A223. The QA Inspector observed Mr. Anaya and Canales occasionally reference the shop drawings and then fit and tack weld various pieces of previously cut material including Tube Steel (TS) and connector plates. After the material was fit and tacked, the QA Inspector observed that Smith Emery QC Inspector Mr. Ruben Dominguez was present to verify the fit up. After the fit up was verified, the QA Inspector observed Mr. Rodriguez then perform the FCAW activities in various positions on these weld joints, designated as fillet and flare groove.

Frame Assemblies
On this date, the QA Inspector observed Westmont Industries (WMI), production welder Eutimo Lopez (WID # 3035), continuing to perform Flux Core Arc Welding (FCAW) activities for the SAS-EB Traveler frames. The QA Inspector observed Mr. Lopez performing the FCAW on previously fit and tack welded Tube Steel (TS) and plate material, for the Frame Assembly identified as B240, per the shop drawings. The QA Inspector observed Mr. Lopez perform the FCAW in various positions and observed that Mr. Lopez was performing the FCAW, fillet and flare groove welds, plate to TS material throughout the shift.

See attached picture below.

The QA Inspector observed that Smith-Emery QC Inspector Ruben Dominguez was present, during the above mentioned welding and tacking activities and QC Inspector Dominguez explained that approved Welding Procedure Specifications (WPS's) were being utilized. The QA Inspector randomly observed that the applicable WPS's and copies of the shop drawings, were located near each work station, where the above mentioned FCAW and fitting activities were being performed. The QA Inspector randomly verified that the consumable material,

utilized during the welding was in compliance to the applicable WPS and that the above mentioned welders were currently qualified for the applicable process and position of welding. The QA Inspector randomly observed QC Inspector Dominguez verifying the in-process welding parameters, including voltage, amperage, pre-heat and travel speed and the parameters appeared to be in compliance to the applicable WPS.

Summary of Conversations:

Comment: The QA Inspector observed that a WMI Machinist had previously cut and machined a Calibration Block, prior to Mr. Dominguez performing the UT, mentioned above. The QA Inspector observed that the block material appeared to be machined carbon steel, measuring 25 mm W x 12 mm D x 72 mm L. The block appeared to have three .060" (1.5 mm) side drilled holes, located at 3mm, 6 mm and mm in depth, from the Face A (scanning face), of the block and appeared to be in compliance with the requirements of AWS D1.1 2002, Annex K, UT Examination of Welds by Alternative Techniques.

The QA Inspector noted that the WMI submittal, review and approval for the Alternate UT procedure is still pending.

On this date, the QA Inspector was requested by Namasco Steel, to perform an inspection on plate material, prior to cutting operations being performed. Upon arrival, at approximately 1300, the QA Inspector met with Namasco Representative, Mr. Raymond Flores. Mr. Flores explained that the plate material has been received by Namasco and will be cut, per the cutting instructions, provided by WMI. Mr. Flores then explained that some of the plate material is located in the production bay, where cutting operations are performed and the remainder of the material is located in the outside laydown storage area. Mr. Flores then provided the QA Inspector with Mill Test Reports (MTR's), for the material to be inspected. The QA Inspector was then shown the plate material and the material appeared to have identifying numbers written on each piece of material, which included material grade, size, heat number, etc. The material identifying numbers appeared to match the Mill Test Reports (MTR's) which were provided to the QA Inspector. The QA Inspector then wrote "OK to Cut' on the material, utilizing a yellow paint stick marker. The QA Inspector also wrote "OK to Cut" on the applicable MTR's, utilizing a ball point pen and was then provided copies. The QA Inspector observed that the material appeared to be in compliance with the contract requirements and is listed as follows:

1 Each Plate Material A572 Gr. 50-1.25"x 96" x 240"-Ht. # NT7676

1 Each Plate Material A572 Gr. 50-.875"x 96" x 240"-Ht. # NT8486

Comments

WELDING INSPECTION REPORT

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Vance,Sean	Quality Assurance Inspector
Reviewed By:	Edmondson,Fred	QA Reviewer